

FORM PTO-1390
(REV 12-29-99)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

60130-865

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)

09/601545

INTERNATIONAL APPLICATION NO.
PCT/FR99/00193INTERNATIONAL FILING DATE
29 JAN 99PRIORITY DATE CLAIMED
3 FEB 98TITLE OF INVENTION Interference Suppression System In An Engine With Permanent
Magnets Activating a Functional Motor Vehicle Element

APPLICANT(S) FOR DO/EO/US

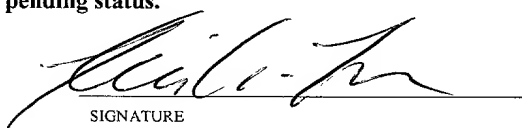
Meritor Light Vehicle Systems - France

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☐ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

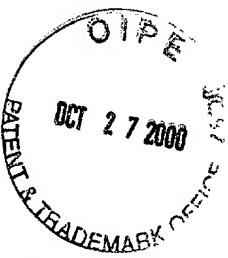
Items 11. to 16. below concern document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☐ A **FIRST** preliminary amendment.
☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☐ Other items or information:

U.S. APPLICATION NO (if known, see 1.5) 09/601545		INTERNATIONAL APPLICATION NO		ATTORNEY'S DOCKET NUMBER 60130-865	
17. <input checked="" type="checkbox"/> The following fees are submitted: BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) : Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$970.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$840.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$690.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$670.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) \$96.00 ENTER APPROPRIATE BASIC FEE AMOUNT =				CALCULATIONS PTO USE ONLY	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$ 840.00	
				\$ 130.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	- 20 =		X \$18.00	\$	
Independent claims	- 3 =		X \$78.00	\$	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$260.00	\$	
TOTAL OF ABOVE CALCULATIONS =				\$ 970.00	
Reduction of 1/2 for filing by small entity, if applicable. A Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28).				\$	
SUBTOTAL =				\$ 970.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	
TOTAL NATIONAL FEE =				\$ 970.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property				\$	
TOTAL FEES ENCLOSED =				\$	
				Amount to be refunded:	\$
				charged:	\$
a. <input type="checkbox"/> A check in the amount of \$_____ to cover the above fees is enclosed. b. <input checked="" type="checkbox"/> Please charge my Deposit Account No. <u>18-1720</u> in the amount of \$ <u>970.00</u> to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>18-1720</u> . A duplicate copy of this sheet is enclosed.					
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO.					
 SIGNATURE					
Kerrie A. Laba NAME					
<u>42,777</u> REGISTRATION NUMBER					

525 Rec'd PCT/PTO 27 OCT 2000

Docket Number: 60130-865



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Serial No.: 09/601545

Group Art Unit:

Filed: 8/3/2000

Examiner:

For: INTERFERENCE SUPPRESSION SYSTEM IN AN ENGINE
WITH PERMANENT MAGNETS ACTIVATING A
FUNCTIONAL MOTOR VEHICLE ELEMENT

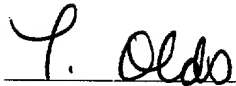
5000

Commissioner of Patents & Trademarks
Washington, D.C. 20231

CHANGE OF CORRESPONDENCE ADDRESS

The undersigned is an attorney of record in this file and requests that
the correspondence address be changed to:

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(248) 988-8360


Theodore W. Olds, III
Reg. No. 33,080
Attorney of Record

09/601545
Rec'd PCT/PTO 29 MAR 2001

Noise suppression system for a permanent-magnet motor
for activating a functional device in a motor vehicle

5 The present invention relates to a noise suppression system for a permanent-magnet motor for activating a functional device in a motor vehicle.

In general, such motors include supply brushes associated with a commutator and connected to an external power supply by supply leads.

10 In addition, such motors also generally include a metal casing.

A certain number of noise suppression systems for these motors have already been developed in the prior art.

15 However, all these systems have proved to be relatively ineffective or to have too high a manufacturing cost for a general application to this type of motor.

20 The object of the invention is therefore to solve these problems.

For this purpose, the subject of the invention is a noise suppression system for a permanent-magnet motor for activating a functional device in a motor vehicle, in which the motor includes supply brushes connected to an external power supply by leads and a metal casing, characterized in that each brush is connected to the metal casing of the motor through at least one noise suppression capacitor, in that the metal casing of the motor is connected to the vehicle's earth and in that the metal casing of the motor and the functional device have complementary means for earthing the casing.

30 The invention will be more clearly understood with the aid of the description which follows, given solely by way of example and with reference to the appended drawing, which shows a schematic diagram illustrating the general structure of a noise



RECEIVED MAR 29 2001

suppression system for a permanent-magnet motor according to the invention.

This figure shows the general structure of a permanent-magnet motor for activating, for example, a functional device in a motor vehicle, this motor being
5 denoted by the general reference number 1.

This motor has, for example, a metal casing denoted by the general reference number 2, in which, for example, permanent magnets denoted by the general
10 reference number 3 and a rotating part denoted by the general reference number 4 are placed, the said rotating part being provided with a shaft 5 on which, for example, a commutator denoted by the general
15 reference number 6 and other devices of conventional type, denoted by the general reference number 7, are placed.

The commutator 6 is associated with supply brushes, for example 8 and 9, which are connected by supply leads, for example 10 and 11, to a power supply
20 external to the motor, denoted by the general reference number 12 in this figure.

According to the invention, each supply brush, that is to say the brushes 8 and 9, is connected to the metal casing 2 of the motor through at least one noise
25 suppression capacitor, such as the capacitors 13 and 14, and the metal casing 2 of the motor is connected to the vehicle's earth, for example at 15, in any suitable manner, as will be described in greater detail below.

In fact, this makes it possible to form two noise suppression circuits essentially of the LC type
30 on the brushes, in so far as the leads 10 and 11 have a certain intrinsic inductance.

These leads may also be associated with specific inductors, such as the inductors denoted by
35 the general reference numbers 16 and 17 in this figure, or they may consist of ferrite-loaded wires of conventional type, that is to say in which the conducting core of these wires is placed in a ferrite

sheath which is itself surrounded by a layer of insulating material.

Such a structure therefore makes it possible to match the characteristics of the LC circuits to the desired noise suppression characteristics.

The metal casing 2 of the motor may, as described above, be connected to the vehicle's earth in any suitable manner.

Thus, for example, this casing may be connected to the vehicle's earth through an earthing braid or a supporting piece of the functional device with which the motor is associated, etc.

Thus, for example, the metal casing of the motor may be earthed by a piece for fastening this motor to the rest of the functional device.

For example, if the activating motor is a motor for activating a so-called motor-operated adjustable seat of a motor vehicle, the metal casing of the motor may be connected to the vehicle's earth through the slideway of the seat or other device.

It is thus understood that such a structure then has a certain of advantages, especially with regard to its simplicity and therefore its production cost.

CLAIMS

1. Noise suppression system for a permanent-magnet motor for activating a functional device in a motor vehicle, in which the motor (1) includes supply brushes (8, 9) connected to an external power supply (12) by leads (10, 11) and a metal casing (2), characterized in that each brush (8, 9) is connected to the metal casing (2) of the motor through at least one noise suppression capacitor (13, 14), in that the metal casing (2) of the motor (1) is connected to the vehicle's earth (at 15) and in that the metal casing (2) of the motor and the functional device have complementary means for earthing the casing.
2. System according to Claim 1, characterized in that the supply leads (10, 11) are associated with inductors (16, 17).
3. System according to Claim 1 or 2, characterized in that the supply leads (10, 11) are formed by ferrite-loaded wires.
4. System according to any one of the preceding claims, characterized in that the means for earthing the casing of the motor comprise means for fastening this motor to the functional device.

US CLAIMS

1. Noise suppression system for a permanent-magnet motor for activating a functional device in a motor vehicle, in which the motor (1) includes supply brushes (8, 9) connected to an external power supply (12) by leads (10, 11) and a metal casing (2), characterized in that each brush (8, 9) is connected to the metal casing (2) of the motor through at least one noise suppression capacitor (13, 14), in that the metal casing (2) of the motor (1) is connected to the vehicle's earth (at 15) and in that the metal casing (2) of the motor and the functional device have complementary means for earthing the casing.
2. System according to Claim 1, characterized in that the supply leads (10, 11) are associated with inductors (16, 17).
3. System according to Claim 1, characterized in that the supply leads (10, 11) are formed by ferrite-loaded wires.
4. System according to any one of the preceding claims, characterized in that the means for earthing the casing of the motor comprise means for fastening this motor to the functional device.

Declaration and Power of Attorney for Patent Application



Déclaration et Pouvoirs pour Demande de Brevet

French Language Declaration

En tant que l'inventeur nommé ci-après, je déclare par le présent acte que:

Mon domicile, mon adresse postale et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée

et dont la description est fournie ci-joint à moins que la case suivante n'ait été cochée:

- ☐ a été déposée le _____ sous le numéro de demande des Etats-Unis ou le numéro de demande international PCT _____ et modifiée le _____ (le cas échéant).

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises, telles que modifiées par toute modification dont il aura été fait référence ci-dessus.

Je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

"Noise suppression system for a permanent-magnet motor for activating a functional device in a motor vehicle".

the specification of which is attached hereto unless the following box is checked:

- ☒ was filed on 29 January 1999 as United States Application Number or PCT International Application Number PCT/FR99/00193 and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

Language Declaration

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, § 119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous et, en cochant la case, j'ai aussi indiqué ci-dessous toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

Prior foreign application(s)

Demande(s) de brevet antérieure(s)

98 01231 FRANCE

(Number) (Country)
(Numéro) (Pays)

(Number) (Country)
(Numéro) (Pays)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 119(e) du Code des Etats-Unis, de toute demande de brevet provisoire effectuée aux Etats-Unis et figurant ci-dessous.

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 120 du Code des Etats-Unis, de toute demande de brevet effectuée aux Etats-Unis, ou en vertu du Titre 35, § 365(c) du même Code, de toute demande internationale PCT désignant les Etats-Unis et figurant ci-dessous et, dans la mesure où l'objet de chacune des revendications de cette demande de brevet n'est pas divulgué dans la demande antérieure américaine ou internationale PCT, en vertu des dispositions du premier paragraphe du Titre 35, § 112 du Code des Etats-Unis, je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations, dont j'ai pu disposer entre la date de dépôt de la demande antérieure et la date de dépôt de la demande nationale ou internationale PCT de la présente demande:

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

(Application No.) (Filing Date)
(N° de demande) (Date de dépôt)

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toutes ces déclarations volontaire ou son équivalent est passible d'une amende ou d'une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci.

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365 (b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below, and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Not Claimed

Droit de priorité non revendiqué

03 February 1998

(Day/Month/Year Filed)
(Jour/Mois/Année de dépôt)

(Day/Month/Year Filed)
(Jour/Mois/Année de dépôt)

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Status) (patented, pending, abandoned)
(Statut) (breveté, en cours d'examen, abandonné)

(Status) (patented, pending, abandoned)
(Statut) (breveté, en cours d'examen, abandonné)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Page 2 of 3

French Language Declaration

POUVOIRS: En tant que l'inventeur cité, je désigne par la présente l'(les) avocat(s) et/ou agent(s) suivant(s) pour qu'ils poursuive(nt) la procédure de cette demande de brevet et traite(nt) toute affaire s'y rapportant avec l'Office des brevets et des marques: (mentionner le nom et le numéro d'enregistrement).

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: (list name and registration number)

Theodore W. Olds, Reg. No 33,080

John E. Carlson Reg. No 37,794

David J. Gaskey, Reg. No 37,139

Adresser toute correspondance à:

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Nom complet de l'unique ou premier inventeur BREYNAERT François		Full name of sole or first inventor François BREYNAERT	
Signature de l'inventeur <i>F. Breynaert</i>		Inventor's signature Date 10/10/00	
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Nationalité FRANCAISE		Citizenship Française <i>FLX</i>	
Adresse postale 14000 CAEN France		Post Office Address 14000 CAEN (France)	
Nom complet du second co-inventeur, le cas échéant		Full name of second joint inventor, if any	
Signature du second inventeur		Second Inventor's signature	
Date		Date	
Domicile		Residence	
Nationalité		Citizenship	
Adresse postale		Post Office Address	

(Fournir les mêmes renseignements et la signature de tout co-inventeur supplémentaire.)

(Supply similar information and signature for third and subsequent joint inventors.)

Page 3 of 3